CLAIMS

What is claimed is:

1. A recombinant nucleic acid consisting essentially of SEQ ID NO:1 or its complement.

2. A polypeptide encoded by the nucleic acid of claim 1.

3. A gene comprising a truncated c-Src oncogene wherein the truncation occurs at the 3' end.

4. The gene of claim 3 the expression of which results in at least the loss of one or more amino acids in the C-terminal end of pp60 c-Src.

5. A method of screening at least one compound for the treatment of Src associated or caused diseases comprising:

a) providing cells transfected with or expressing SRC 531 mutant gene;

b) administering one or more test compounds to the cells;

c) determining whether the one or more test compounds decrease the expression SRC 531 mutant gene or inhibite proliferation of the cell; and,

d) selecting the one or more test compounds which decrease the expression of SRC531 mutant gent or inhibited proliferation of the cell as a potential compound for the treatment of SRC associated or caused diseases.

6. A method of treating a cancer by administering to cancerous cells exhibiting a c-Src mutation at SRC 531 an effective amount of a compound capable of inhibiting excess kinase activity resulting from the c-Src mutation or capable of inhibiting expression of c-Src mutant gene.

7. The method according to claim 6 wherein the compound comprises an antisense oligonucleotide.

8. A preparation comprising antibodies which specifically bind to c-Src SRC 531 mutant.

9. An expression construct for expressing all or a portion of c-Src SRC 531 mutant comprising:

a promoter; and

an oligonucleotide segment encoding one or more amino acids of the c-Src mutant, wherein the segment is operably linked to the promoter.

10. The expression construct of claim 9 wherein the oligonucleotide segment is located downstream of the promoter and wherein transcription of the segment is initiated at the promoter.

11. A recombinant cell having incorporated therein at least one nucleic acid sequence coding for SRC 531 mutant.

12. A primer comprising a nucleic acid capable of recognizing and binding to SRC 531 region.

13. A diagnostic kit for detecting a Src oncogene related malignancy in an animal which comprises multiple containers wherein each of the separate containers comprise:

a set of primers useful for PCR detection of a mutated region of Src oncogene, and optionally a positive control comprising a mutated Src sequence and a negative control comprised of a non-mutated Src sequence.

14. A nucleic acid probe comprising a DNA sequence having an affinity to SRC 531 mutated region of Src oncogene.

15. A method for detecting SRC 531 mutation comprising the steps of:

a) contacting a nucleic acid suspected of having a SRC531 mutation with a restriction enzyme exhibiting Sca I or Sca I-like activity; and,

b) determining a lack or a presence of a restriction site, wherein the lack of said restriction site indicates SRC 531 mutation.

16. A cancer vaccine comprising as an immunogen at least one immunogenic epitope of a SRC 531 mutant.

17. A method for detecting the presence of SRC 531 mutation in a Src oncogene contained in a sample, which method comprises:

a) providing the sample;

b) contacting the sample with a first and a second primer, wherein the first primer is capable of binding upstream of SRC531 region and the second primer is capable of binding downstream of the SRC531 region;

c) amplifying the SRC 531 region according to standard procedures to form an amplified sequence; and,

d) detecting whether the amplified sequence is present or absent in the sample.

18. A cell line harboring a nucleic acid comprising SRC 531 mutant Src-oncogene.

19. An isolated DNA molecule comprising a nucleic acid sequence encoding a Src protein tyrosine kinase lacking the carboxy-terminal end.

20. A transgenic mouse whose somatic and germ cells comprise a gene coding for SRC 531, said gene operably linked to a promoter, wherein expression of said SRC 531 gene results in the formation of abnormalities or tumors in the transgenic mouse.

21. A nucleic acid construct comprising the nucleic acid of claim 1.

22. A replicable vector comprising the nucleic acid construct of claim 21.

23. A host cell harboring the vector of claim 22.

24. An isolated nucleic acid consisting essentially of a nucleotide sequence of SEQ ID NO:1 or a contiguous fragment thereof wherein said isolated nucleic acid encodes a polypeptide exhibiting tyrosine kinase activity or tyrosine kinase-like activity.

25. An isolated nucleic acid consisting essentially of a nucleotide sequence that is at least 90% identical to the nucleotide sequence of SEQ ID No:1.

26. A host cell comprising the isolated purified nucleic acid of claim 1.

27. A method for producing and purifying a polypeptide, said method comprising the steps of:

a) culturing the host cell of claim 26 under conditions suitable for the expression of the polypeptide encoded by SEQ ID NO:1; and

b) recovering the polypeptide from the host cell or the host cell culture.

28. A composition comprising the polypeptide of claim 2 and an immune adjuvant.